

This document contains MIDI implementation information for Trinity V3 not covered in the Trinity Parameter Guide.

Since basic MIDI feature is same as Trinity with Solo Synthesizer, you can use MIDI Implementation section of the Trinity Parameter Guide by exchanging "Solo" related terms to "MOSS". But some of the feature is slightly changed/added to avoid conflict between two types of Trinity. Section -1- contains minor changes and additional MIDI message to accomplish this. Also, MOSS Program structure in "M" Bank is surely new issue. Section -2- contains this information.

-1- MIDI Exclusive Message

1.1 Minor Changes

1.1.1 Program Parameter Dump (Function ID = 0x4C)

Message Byte	Description
F0,42,3g,3B	Common Header
4C	Program Parameter Dump
0000 0vvv[*]	Available Bank
00kk 0bbb	Kind, Bank
0ppp pppp	Program Number
0xxx xxxx	(Reserved)
0ddd dddd	Data
~	~
F7	End Of Exclusive

```
[*]vvv = 0 : Bank A+B          : Basic Trinity
          1 : Bank A+B+C+D      : Trinity With Flash ROM
          2 : Bank A+B+S1       : Trinity With Solo Synthesizer
          3 : Bank A+B+C+D+S1+S2 : Trinity With Flash ROM And Solo Synthesizer
          4 : Bank A+B+M1       : Trinity With MOSS Synthesizer(ADDITIONAL)
          5 : Bank A+B+C+D+M1+M2 : Trinity With Flash ROM And MOSS Synthesizer(ADDITIONAL)
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1.1.2 All Data Dump (Function ID = 0x50)

Message Byte	Description
F0,42,3g,3B	Common Header
50	All Data Dump
0000 0vvv[*]	Available Bank
0xxx xxxx	(Reserved)
0sss ssss	Size Of Sequence Data
~	~
0ddd dddd	Data
~	~
F7	End Of Exclusive

```
[*]vvv = 0 : Bank A+B          : Basic Trinity
          1 : Bank A+B+C+D      : Trinity With Flash ROM
          2 : Bank A+B+S1       : Trinity With Solo Synthesizer
          3 : Bank A+B+C+D+S1+S2 : Trinity With Flash ROM And Solo Synthesizer
          4 : Bank A+B+M1       : Trinity With MOSS Synthesizer(ADDITIONAL)
          5 : Bank A+B+C+D+M1+M2 : Trinity With Flash ROM And MOSS Synthesizer(ADDITIONAL)
```

1.2 Additional Message

1.2.1 Current MOSS Program Parameter Dump (Function ID = 0x6C)

Message Byte	Description
F0,42,3g,3B	Common Header
6C	Current MOSS Program Parameter Dump
0000 00tt	Program Type (Fixed to 2 for MOSS)
0ddd dddd	Data
~	~
F7	End Of Exclusive

Receive:

-Always.

-After receiving this message, Trinity responds by transmitting 0x23(Data Load Completed) or 0x24(Data Load Error).

Transmit:

-As a response for 0x10(Current Program Parameter Dump Request) if the current program is set to the one in "M" Bank in Program Mode.

-When the current program is changed to the one in "M" Bank in Program Mode.

-2- MOSS Program Parameter Structure

2.1 Single Program Structure

In following chart,

Ofst : Byte offset in the program dump data

PrmID : Hexadecimal parameter ID used in the parameter change message

Ofst	PrmID	Parameter Name	Representation	Value	Size
0~15	---	[Program Common]			
16	3A,00	Program Name		20H~7FH	16
	3A,00	Category A		0~15	1(Bit0~3)
	3A,01	Category B		0~15	^(Bit4~7)
17	---	reserved		3(Fixed)	1(Bit0~1)
	3A,02	Hold	OFF/ON	0/1	^(Bit3)
	3A,03	Key Priority	LAST/LOW/HIGH	0~2	^(Bit4~5)
	3A,04	Voice Assign Mode	MONO_MULTI/MONO_SINGLE/POLY	0~2	^(Bit6~7)

18	3A,06	Retrigger Control Threshold (Scale)	1~127	1~127	1
19	3A,0A	Scale Key	C~B	0~11	1(Bit0~3)
	3A,0B	Scale Type	[*1]	0~10	^(Bit4~7)
20	3A,0C	Random Pitch Intensity	0~99	0~99	1
21	3A,0D	SW1 Assign	[*1]	0~8	1(Bit0~3)
	3A,0E	SW2 Assign	[*1]	0~8	^(Bit4~7)
22	3A,05	Retrigger Controller (Unison)	[*2]	0~23	1
23	3A,07	Unison Type	OFF/2/3/6	0~3	1(Bit0~1)
	---	reserved		1(Fixed)	^(Bit2)
	3A,08	Unison Mode	FIXED/DYNAMIC	0/1	^(Bit3)
24	3A,09	Unison Detune	0~99[cent]	0~99	1
Subtotal					25Byte
=====					
[EG1]					
25	47,00	Start Level	-99~+99	-99~+99	1
26	47,01	Attack Time	0~99	0~99	1
27	47,02	Attack Level	-99~+99	-99~+99	1
28	47,03	Decay Time	0~99	0~99	1
29	47,04	Break Level	-99~+99	-99~+99	1
30	47,05	Slope Time	0~99	0~99	1
31	47,06	Sustain Level	-99~+99	-99~+99	1
32	47,07	Release Time	0~99	0~99	1
33	47,08	Release Level	-99~+99	-99~+99	1
34	47,09	EG Level Mod Source	[*3]	0~33	1
35	47,0A	EG Level Mod Int.	-99~+99	-99~+99	1
36	47,0B	EG Level Velocity Control	-99~+99	-99~+99	1
37	47,0C	EG Time Mod Source	[*3]	0~33	1
38	47,0D	EG Time Mod Int.	-99~+99	-99~+99	1
39	47,0E	EG Node Time Mod Source	[*3]	0~33	1
40	47,0F	Attack Time Mod Int.	-99~+99	-99~+99	1
41	47,10	Decay Time Mod Int.	-99~+99	-99~+99	1
42	47,11	Slope Time Mod Int.	-99~+99	-99~+99	1
43	47,12	Release Time Mod Int.	-99~+99	-99~+99	1
=====					
[EG2]					
44	48,00	Same As [EG1]			
~	~				
62	48,12				
=====					
[EG3]					
63	49,00	Same As [EG1]			
~	~				
81	49,12				
=====					
[EG4]					
82	4A,00	Same As [EG1]			
~	~				
100	4A,12				
Subtotal					76Byte
=====					
[LFO1]					
101	4B,00	Wave Form	Triangle'0/Triangle'90/~[*4]	0~17	1(Bit0~4)
	4B,01	Key Sync SW	OFF/byTIMBRE/byVOICE	0/1/2	^(Bit6~7)
102	4B,02	Frequency	0~199	0~199	1
103	4B,03	Frequency Mod1 Source	[*3]	0~33	1
104	4B,04	Frequency Mod1 Int.	-99~+99	-99~+99	1
105	4B,05	Frequency Mod2 Source	[*3]	0~33	1
106	4B,06	Frequency Mod2 Int.	-99~+99	-99~+99	1
107	4B,07	Fade In	0~99	0~99	1
108	4B,08	Amplitude Mod Source	[*3]	0~33	1
109	4B,09	Amplitude Mod Int.	-99~+99	-99~+99	1
110	4B,0A	Offset	-50~+50	-50~+50	1
111	4B,0B	MIDI Sync	OFF/ON	0/1	1(Bit7)
	4B,0C	MIDI Sync Base	semiquaver~semibrave	0~7	^(Bit4~6)
	4B,0D	MIDI Sync Time	1~16	0~15	^(Bit0~3)
=====					
[LFO2]					
112	4C,00	Same As [LFO1]			
~	~				
122	4C,0D				
=====					
[LFO3]					
123	4D,00	Same As [LFO1]			
~	~				
133	4D,0D				
=====					
[LFO4]					
134	4E,00	Same As [LFO1]			
~	~				
144	4E,0D				
Subtotal					44Byte
=====					
[OSC Common]					
		(Pitch Bend)			
145	3B,04	Intensity(+)	-60~+24	-60~+24	1
146	3B,05	Intensity(-)	-60~+24	-60~+24	1

147	3B,06	Step(+)	0,/8,/4,/2,1~12	0~15	1(Bit0~3)
	3B,07	Step(-)	0,/8,/4,/2,1~12	0~15	^(Bit4~7)
		(Common Pitch Mod.)			
148	3B,02	Common Pitch Mod Source	[*3]	0~33	1
149	3B,03	Common Pitch Mod Int.	-99~+99	-99~+99	1
		(Portamento)			
150	3B,08	Portamento SW	OFF/ON	0/1	1(Bit0)
	3B,09	Portamento Mode	NORMAL/FINGERED	0/1	^(Bit1)
151	3B,0A	Portamento Time	0~99	0~99	1
152	3B,0B	Portamento Time Mod Source	[*3]	0~33	1
153	3B,0C	Portamento Time Mod Int.	-99~+99	-99~+99	1
Subtotal					9Byte
154	3B,00	[OSC1] Oscillator Type (Pitch)	Standard~Bowed String [*5]	0~12	1
155	3C,00	Octave	32'~4'	0~3	1
156	3C,01	Semi Tone	-12~+12	-12~+12	1
157	3C,02	Fine Tune	-50~+50cent	-50~+50	1
158	3C,03	Frequency Offset (Pitch Slope)	-10.0~+10.0Hz	-100~+100	1
159	3C,04	Center Key	C-1~G9	0~127	1
160	3C,05	Lower Slope	-1.00~+2.00	-50~+100	1
161	3C,06	Higher Slope (Pitch Modulation)	-1.00~+2.00	-50~+100	1
162	3C,07	Mod1 Source	[*3]	0~33	1
163	3C,08	Mod1 Int.	-99~+99	-99~+99	1
164	3C,09	Mod1 Int.Controller	[*3]	0~33	1
165	3C,0A	Mod1 Int.Controller Int.	-99~+99	-99~+99	1
166	3C,0B	Mod2 Source	[*3]	0~33	1
167	3C,0C	Mod2 Int.	-99~+99	-99~+99	1
168		OSC1 Setting	See 2.2 for details		38
~					
205					
206	3B,01	[OSC2] Oscillator Type (Pitch)	Standard~Electric Piano [*5]	0~8	1
207	3D,00	Octave	32'~4'	0~3	1
208	3D,01	Semi Tone	-12~+12	-12~+12	1
209	3D,02	Fine Tune	-50~+50cent	-50~+50	1
210	3D,03	Frequency Offset (Pitch Slope)	-10.0~+10.0Hz	-100~+100	1
211	3D,04	Center Key	C-1~G9	0~127	1
212	3D,05	Lower Slope	-1.00~+2.00	-50~+100	1
213	3D,06	Higher Slope (Pitch Modulation)	-1.00~+2.00	-50~+100	1
214	3D,07	Mod1 Source	[*3]	0~33	1
215	3D,08	Mod1 Int.	-99~+99	-99~+99	1
216	3D,09	Mod1 Int.Controller	[*3]	0~33	1
217	3D,0A	Mod1 Int.Controller Int.	-99~+99	-99~+99	1
218	3D,0B	Mod2 Source	[*3]	0~33	1
219	3D,0C	Mod2 Int.	-99~+99	-99~+99	1
220		OSC2 Setting	See 2.2 for details		38
~					
257					
Subtotal					104Byte
258	3E,00	[SUB OSC] Octave	32'~4'	0~3	1
259	3E,01	Semi Tone	-12~+12	-12~+12	1
260	3E,02	Fine Tune	-50~+50cent	-50~+50	1
261	3E,03	Frequency Offset (Pitch Slope)	-10.0~+10.0Hz	-100~+100	1
262	3E,04	Center Key	C-1~G9	0~127	1
263	3E,05	Lower Slope	-1.00~+2.00	-50~+100	1
264	3E,06	Higher Slope (Pitch Modulation)	-1.00~+2.00	-50~+100	1
265	3E,07	Mod1 Source	[*3]	0~33	1
266	3E,08	Mod1 Int.	-99~+99	-99~+99	1
267	3E,09	Mod1 Int.Controller	[*3]	0~33	1
268	3E,0A	Mod1 Int.Controller Int.	-99~+99	-99~+99	1
269	3E,0B	Mod2 Source	[*3]	0~33	1
270	3E,0C	Mod2 Int.	-99~+99	-99~+99	1
271	3F,00	Wave Form	SAW/SQU/TRI/SIN	0~3	1
Subtotal					14Byte
272	3F,01	[Noise Generator] Noise Filter Type	THRU/LPF/HPF/BPF	0~3	1
273	3F,02	Noise Filter Input Trim	0~99	0~99	1
274	3F,03	Noise Filter Cutoff	0~99	0~99	1
275	3F,04	Noise Filter Cutoff Mod1 Source	[*3]	0~33	1
276	3F,05	Noise Filter Cutoff Mod1 Int.	-99~+99	-99~+99	1
277	3F,06	Noise Filter Cutoff Mod2 Source	[*3]	0~33	1
278	3F,07	Noise Filter Cutoff Mod2 Int.	-99~+99	-99~+99	1
279	3F,08	Noise Filter Resonance	0~99	0~99	1

				Subtotal	8Byte
=====					
		[Mixer]			
280	40,00	(OSC1 Out1) Level	0~99	0~99	1
281	40,01	Level Mod Source	[*3]	0~33	1
282	40,02	Level Mod Int. (OSC1 Out2)	-99~+99	-99~+99	1
283	40,03	Level	0~99	0~99	1
284	40,04	Level Mod Source	[*3]	0~33	1
285	40,05	Level Mod Int. (OSC2 Out1)	-99~+99	-99~+99	1
286	40,06	Level	0~99	0~99	1
287	40,07	Level Mod Source	[*3]	0~33	1
288	40,08	Level Mod Int. (OSC2 Out2)	-99~+99	-99~+99	1
289	40,09	Level	0~99	0~99	1
290	40,0A	Level Mod Source	[*3]	0~33	1
291	40,0B	Level Mod Int. (SUB OSC Out1)	-99~+99	-99~+99	1
292	40,0C	Level	0~99	0~99	1
293	40,0D	Level Mod Source	[*3]	0~33	1
294	40,0E	Level Mod Int. (SUB OSC Out2)	-99~+99	-99~+99	1
295	40,0F	Level	0~99	0~99	1
296	40,10	Level Mod Source	[*3]	0~33	1
297	40,11	Level Mod Int. (NOISE Out1)	-99~+99	-99~+99	1
298	40,12	Level	0~99	0~99	1
299	40,13	Level Mod Source	[*3]	0~33	1
300	40,14	Level Mod Int. (NOISE Out2)	-99~+99	-99~+99	1
301	40,15	Level	0~99	0~99	1
302	40,16	Level Mod Source	[*3]	0~33	1
303	40,17	Level Mod Int. (Feedback Out1)	-99~+99	-99~+99	1
304	40,18	Level	0~99	0~99	1
305	40,19	Level Mod Source	[*3]	0~33	1
306	40,1A	Level Mod Int. (Feedback Out2)	-99~+99	-99~+99	1
307	40,1B	Level	0~99	0~99	1
308	40,1C	Level Mod Source	[*3]	0~33	1
309	40,1D	Level Mod Int.	-99~+99	-99~+99	1
310	---	reserved		15(Fixed)	1
				Subtotal	31Byte
=====					
		[Filter]			
311	41,00	Filter Routing	SERI1/SERI2/PARA	0/1/2	1(Bit0~1)
	41,01	Filter2 Link Switch	OFF/ON	0/1	^(Bit2)
=====					
		[Filter 1]			
312	41,02	Filter Type	LPF/HPF/BPF/BRF/2BPF	1~5	1
313	41,03	Input Trim	0~99	0~99	1
314	41,04	Cutoff Frequency (Cutoff Keyboard Track)	0~99	0~99	1
315	41,05	Low Key	C-1~G9	0~127	1
316	41,06	High Key	C-1~G9	0~127	1
317	41,07	Lower Intensity	-99~+99	-99~+99	1
318	41,08	Higher Intensity (Cutoff Modulation)	-99~+99	-99~+99	1
319	41,09	Cutoff Frequency Mod EG	EG1~EG4/A.EG	1~5	1
320	41,0A	Cutoff Frequency Mod EG Int.	-99~+99	-99~+99	1
321	41,0B	Cutoff Frequency Mod1 Source	[*3]	0~33	1
322	41,0C	Cutoff Frequency Mod1 Int.	-99~+99	-99~+99	1
323	41,0D	Cutoff Frequency Mod2 Source	[*3]	0~33	1
324	41,0E	Cutoff Frequency Mod2 Int. (Resonance)	-99~+99	-99~+99	1
325	41,0F	Resonance	0~99	0~99	1
326	41,10	Resonance Mod Source	[*3]	0~33	1
327	41,11	Resonance Mod Int. (Filter-B)	-99~+99	-99~+99	1
328	43,00	Input Trim	0~99	0~99	1
329	43,01	Cutoff Frequency (Cutoff-B Keyboard Track)	0~99	0~99	1
330	43,02	Low Key	C-1~G9	0~127	1
331	43,03	High Key	C-1~G9	0~127	1
332	43,04	Lower Intensity	-99~+99	-99~+99	1
333	43,05	Higher Intensity (Cutoff-B Modulation)	-99~+99	-99~+99	1
334	43,06	Cutoff Frequency Mod EG Int.	-99~+99	-99~+99	1
335	43,07	Cutoff Frequency Mod1 Int.	-99~+99	-99~+99	1
336	43,08	Cutoff Frequency Mod2 Int. (Resonance-B)	-99~+99	-99~+99	1
337	43,09	Resonance	0~99	0~99	1
338	43,0A	Resonance Mod Int.	-99~+99	-99~+99	1
=====					
		[Filter 2]			
339	42,02	Filter Type	LPF/HPF/BPF/BRF/2BPF	1~5	1
340	42,03	Input Trim	0~99	0~99	1

341	42,04	Cutoff Frequency (Cutoff Keyboard Track)	0~99	0~99	1
342	42,05	Low Key	C-1~G9	0~127	1
343	42,06	High Key	C-1~G9	0~127	1
344	42,07	Lower Intensity	-99~+99	-99~+99	1
345	42,08	Higher Intensity (Cutoff Modulation)	-99~+99	-99~+99	1
346	42,09	Cutoff Frequency Mod EG	EG1~EG4/A.EG	1~5	1
347	42,0A	Cutoff Frequency Mod EG Int.	-99~+99	-99~+99	1
348	42,0B	Cutoff Frequency Mod1 Source	[*3]	0~33	1
349	42,0C	Cutoff Frequency Mod1 Int.	-99~+99	-99~+99	1
350	42,0D	Cutoff Frequency Mod2 Source	[*3]	0~33	1
351	42,0E	Cutoff Frequency Mod2 Int. (Resonance)	-99~+99	-99~+99	1
352	42,0F	Resonance	0~99	0~99	1
353	42,10	Resonance Mod Source	[*3]	0~33	1
354	42,11	Resonance Mod Int. (Filter-B)	-99~+99	-99~+99	1
355	44,00	Input Trim	0~99	0~99	1
356	44,01	Cutoff Frequency (Cutoff-B Keyboard Track)	0~99	0~99	1
357	44,02	Low Key	C-1~G9	0~127	1
358	44,03	High Key	C-1~G9	0~127	1
359	44,04	Lower Intensity	-99~+99	-99~+99	1
360	44,05	Higher Intensity (Cutoff-B Modulation)	-99~+99	-99~+99	1
361	44,06	Cutoff Frequency Mod EG Int.	-99~+99	-99~+99	1
362	44,07	Cutoff Frequency Mod1 Int.	-99~+99	-99~+99	1
363	44,08	Cutoff Frequency Mod2 Int. (Resonance-B)	-99~+99	-99~+99	1
364	44,09	Resonance	0~99	0~99	1
365	44,0A	Resonance Mod Int.	-99~+99	-99~+99	1
				Subtotal	55Byte
366	45,00	[Amplitude] [Amp 1] Amplitude (Amp Keyboard Track)	0~99	0~99	1
367	45,01	Low Key	C-1~G9	0~127	1
368	45,02	High Key	C-1~G9	0~127	1
369	45,03	Lower Int.	-99~+99	-99~+99	1
370	45,04	Higher Int. (Amp Modulation)	-99~+99	-99~+99	1
371	45,05	Amplitude Mod EG	EG1~EG4/A.EG	1~5	1
372	---	reserved		99(Fixed)	1
373	45,06	Amplitude Mod Source	[*3]	0~33	1
374	45,07	Amplitude Mod Int.	-99~+99	-99~+99	1
375	45,08	[Amp 2] Amplitude (Amp Keyboard Track)	0~99	0~99	1
376	45,09	Low Key	C-1~G9	0~127	1
377	45,0A	High Key	C-1~G9	0~127	1
378	45,0B	Lower Int.	-99~+99	-99~+99	1
379	45,0C	Higher Int. (Amp Modulation)	-99~+99	-99~+99	1
380	45,0D	Amplitude Mod EG	EG1~EG4/A.EG	1~5	1
381	---	reserved		99(Fixed)	1
382	45,0E	Amplitude Mod Source	[*3]	0~33	1
383	45,0F	Amplitude Mod Int.	-99~+99	-99~+99	1
384	---	[Amp EG] reserved		0(Fixed)	1
385	46,00	Attack Time	0~99	0~99	1
386	46,01	Attack Level	0~99	0~99	1
387	46,02	Decay Time	0~99	0~99	1
388	46,03	Break Level	0~99	0~99	1
389	46,04	Slope Time	0~99	0~99	1
390	46,05	Sustain Level	0~99	0~99	1
391	46,06	Release Time	0~99	0~99	1
392	---	reserved		0(Fixed)	1
393	46,07	EG Level Mod Source	[*3]	0~33	1
394	46,08	EG Level Mod Int.	-99~+99	-99~+99	1
395	46,09	EG Level Velocity Control	-99~+99	-99~+99	1
396	46,0A	EG Time Mod Source	[*3]	0~33	1
397	46,0B	EG Time Mod Int.	-99~+99	-99~+99	1
398	46,0C	EG Node Time Mod Source	[*3]	0~33	1
399	46,0D	Attack Time Mod Int.	-99~+99	-99~+99	1
400	46,0E	Decay Time Mod Int.	-99~+99	-99~+99	1
401	46,0F	Slope Time Mod Int.	-99~+99	-99~+99	1
402	46,10	Release Time Mod Int.	-99~+99	-99~+99	1
				Subtotal	37Byte
403	45,10	[Output] Panpot	OFF, L000~R127	-1, 0~127	1
404	45,11	Panpot Mod Source	[*3]	0~33	1
405	45,12	Panpot Mod Int.	-99~+99	-99~+99	1
406	45,13	Output Level	0~127	0~127	1
407	45,14	Send1	0~127	0~127	1

408	45,15	Send2	0~127	0~127	1
Subtotal					6Byte
=====					
409	4B,0E	[Tempo] Tempo For LFO MIDI Sync	40~240	40~240	1
410	---	reserved			5
~	~				
414	---				
Subtotal					6Byte
=====					
415	14,00	[Insert Effect1] Effect Parameters (Depend On Type)			16
~	~				
430	14,xx				
431	5C,06	Type	(See Trinity Effect Guide)	0~x	1(Bit0~5)
	5C,03	Switch	OFF/ON	0/1	^(Bit6)
	---	reserved			^(Bit7)
432	5C,00	Size	0/1/2/4	0~3	1(Bit0~1)
	---	reserved			^(Bit2~7)
433	---	reserved			4
~	~				
436	---				
Subtotal					16
=====					
437	15,00	[Insert Effect2] Effect Parameters (Depend On Type)			16
~	~				
452	15,xx				
453	5C,07	Type	(See Trinity Effect Guide)	0~x	1(Bit0~5)
	5C,04	Switch	OFF/ON	0/1	^(Bit6)
	---	reserved			^(Bit7)
454	5C,01	Size	0/1/2/4	0~3	1(Bit0~1)
	---	reserved			^(Bit2~7)
455	---	reserved			4
~	~				
458	---				
Subtotal					16
=====					
459	16,00	[Insert Effect3] Effect Parameters (Depend On Type)			16
~	~				
474	16,xx				
475	5C,08	Type	(See Trinity Effect Guide)	0~x	1(Bit0~5)
	5C,05	Switch	OFF/ON	0/1	^(Bit6)
	---	reserved			^(Bit7)
476	5C,02	Size	0/1/2/4	0~3	1(Bit0~1)
	---	reserved			^(Bit2~7)
477	5C,0B	Pan	OFF,L000~R127	-1,0~127	1
478	5C,0E	Width	0~127	0~127	1
479	5C,11	Send1	0~127	0~127	1
480	5C,14	Send2	0~127	0~127	1
Subtotal					66Byte
=====					
481	19,00	[Master Effect1(Modulation)] Effect Parameters (Depend On Type)			16
~	~				
496	19,xx				
497	5D,03	Type	(See Trinity Effect Guide)	0~x	1(Bit0~5)
	5D,01	Switch	OFF/ON	0/1	^(Bit6)
	5D,00	Cascade To Master Effect2	OFF/ON	0/1	^(Bit7)
498	5D,05	Pan	OFF,L,99:01~01:99,R	-1,0~100	1
499	5D,07	Return	0~127	0~127	1
Subtotal					16
=====					
500	1A,00	[Master Effect2(Reverb/Delay)] Effect Parameters (Depend On Type)			16
~	~				
515	1A,xx				
516	5D,04	Type	(See Trinity Effect Guide)	0~x	1(Bit0~5)
	5D,02	Switch	OFF/ON	0/1	^(Bit6)
	---	reserved			^(Bit7)
517	5D,06	Pan	OFF,L,99:01~01:99,R	-1,0~100	1
518	5D,08	Return	0~127	0~127	1
Subtotal					16
=====					
519	5D,09	[Master EQ] Low Gain	-18.0~+18.0	-36~+36	1
520	5D,0A	High Gain	-18.0~+18.0	-36~+36	1
Subtotal					40Byte
Total					521Byte
=====					

2.2 Oscillator Parameters in OSC1/2 Setting

In following chart,

Ofst : Byte offset from OSC1/2 Setting

PrmID : Parameter ID used in the parameter change message. Following chart shows the ID when each OSC is placed on OSC1. The ID for OSC2 starts continuously from the end of each OSC parameter(e.g. The ID for "Wave" parameter of the Standard OSC is 4F,16 when it is placed to OSC2).

Ofst	PrmID	Parameter Name	Representation	Value	Size

		[Standard OSC]			
0	4F,00	Wave	SAW/PULSE	0/1	1
1	4F,01	Wave Edge	0~99	0~99	1
2	4F,02	Wave Level	0~99	0~99	1
3	4F,03	Triangle Level	0~99	0~99	1
4	4F,04	Sine Level	0~99	0~99	1
5	4F,05	Triangle Phase Shift	-99~+99	-99~+99	1
6	4F,06	Wave Form	-99~+99	-99~+99	1
7	4F,07	Wave Form Mod LFO	LF01~LF04	6~9	1
8	4F,08	Wave Form Mod LFO Int.	-99~+99	-99~+99	1
9	4F,09	Wave Form Mod Source	[*3]	0~33	1
10	4F,0A	Wave Form Mod Int. (Wave Shape)	-99~+99	-99~+99	1
11	4F,0B	Wave Shape Input Level	0~99	0~99	1
12	4F,0C	Wave Shape Input Lvl Mod Source	[*3]	0~33	1
13	4F,0D	Wave Shape Input Lvl Mod Int	-99~+99	-99~+99	1
14	4F,0E	Wave Shape Offset	-99~+99	-99~+99	1
15	4F,0F	Wave Shape Table	CLIP/RESO	0/1	1
16	4F,10	Wave Shape	0~99	0~99	1
17	4F,11	Wave Shape Mod Source	[*3]	0~33	1
18	4F,12	Wave Shape Mod Int.	-99~+99	-99~+99	1
19	4F,13	Wave Shape Balance	0~99	0~99	1
20	4F,14	Wave Shape Balance Mod Source	[*3]	0~33	1
21	4F,15	Wave Shape Balance Mod Int.	-99~+99	-99~+99	1

		[Comb Filter OSC]			
0	50,00	Input Select	SC1+Noise/SubOSC+Noise/ Filter1+Noise/Filtier2+Noise /Pulse Noise/Impulse	0~5	1
1	50,01	Input Wave Level	0~99	0~99	1
2	50,02	Noise Level	0~99	0~99	1
3	50,03	Width	0~99	0~99	1
4	50,04	Input Level Mod Source	[*3]	0~33	1
5	50,05	Input Level Mod Int.	-99~+99	-99~+99	1
6	50,06	Comb Filter Feedback	0~99	0~99	1
7	50,07	Feedback Mod1 Source	[*3]	0~33	1
8	50,08	Feedback Mod1 Int.	-99~+99	-99~+99	1
9	50,09	Feedback Mod2 Source	[*3]	0~33	1
10	50,0A	Feedback Mod2 Int.	-99~+99	-99~+99	1
11	50,0B	High Damp	0~99	0~99	1
12	50,0C	High Damp Mod Source	[*3]	0~33	1
13	50,0D	High Damp Mod Int.	-99~+99	-99~+99	1

		[VPM OSC] (Carrier)			
0	51,00	Wave	SAW/SQU/TRI/SIN	0/1/2/3	1
1	51,01	Level	0~99	0~99	1
2	51,02	Level Mod1 Source	[*3]	0~33	1
3	51,03	Level Mod1 Int.	-99~+99	-99~+99	1
4	51,04	Level Mod2 Source	[*3]	0~33	1
5	51,05	Level Mod2 Int.	-99~+99	-99~+99	1
6	51,06	Wave Shape	0~99	0~99	1
7	51,07	Wave Shape Mod1 Source	[*3]	0~33	1
8	51,08	Wave Shape Mod1 Int.	-99~+99	-99~+99	1
9	51,09	Wave Shape Mod2 Source	[*3]	0~33	1
10	51,0A	Wave Shape Mod2 Int.	-99~+99	-99~+99	1
11	51,0B	Wave Shape Type	1/2	0/1	1
12	51,0C	Feedback (Modulator)	0~99	0~99	1
13	51,0D	Frequency Coarse	0.5/1~16	0~16	1
14	51,0E	Frequency Fine	-50~+50	-50~+50	1
15	51,0F	Frequency Mod1 Source	[*3]	0~33	1
16	51,10	Frequency Mod1 Int.	-99~+99	-99~+99	1
17	51,11	Frequency Mod2 Source	[*3]	0~33	1
18	51,12	Frequency Mod2 Int.	-99~+99	-99~+99	1
19	51,13	Wave	SAW/SQU/TRI/SIN/OSC1(2) /Sub OSC/Filter1/Filter2	0~7	1
20	51,14	Level	0~99	0~99	1
21	51,15	Level Mod.1 Source	[*3]	0~33	1
22	51,16	Level Mod.1 Intensity	-99~+99	-99~+99	1
23	51,17	Level Mod.2 Source	[*3]	0~33	1
24	51,18	Level Mod.2 Intensity	-99~+99	-99~+99	1

		[Resonance OSC]			
0	52,00	Input Select	OSC1(2)/Sub OSC/Noise /Filter1/Filter2	0~4	1
1	52,01	Input Level	0~99	0~99	1
2	52,02	Input Level Mod1 Source	[*3]	0~33	1
3	52,03	Input Level Mod1 Int.	-99~+99	-99~+99	1
4	52,04	Input Level Mod2 Source	[*3]	0~33	1
5	52,05	Input Level Mod2 Int. (BPF1)	-99~+99	-99~+99	1
6	52,06	Resonance1	0~99	0~99	1
7	52,07	Harmonics1	1~16	0~15	1
8	52,08	Harmonics1 Mod Source	[*3]	0~33	1
9	52,09	Harmonics1 Mod Int.	-15~+15	-15~+15	1
10	52,0A	Frequency Finel	-99~+99	-99~+99	1

11	52,0B	Level1 (BPF2)	0~99	0~99	1
12	52,0C	Resonance2	0~99	0~99	1
13	52,0D	Harmonics2	1~16	0~15	1
14	52,0E	Harmonics2 Mod Source	[*3]	0~33	1
15	52,0F	Harmonics2 Mod Int.	-15~+15	-15~+15	1
16	52,10	Frequency Fine2	-99~+99	-99~+99	1
17	52,11	Level2 (BPF3)	0~99	0~99	1
18	52,12	Resonance3	0~99	0~99	1
19	52,13	Harmonics3	1~16	0~15	1
20	52,14	Harmonics3 Mod Source	[*3]	0~33	1
21	52,15	Harmonics3 Mod Int.	-15~+15	-15~+15	1
22	52,16	Frequency Fine3	-99~+99	-99~+99	1
23	52,17	Level3 (BPF4)	0~99	0~99	1
24	52,18	Resonance4	0~99	0~99	1
25	52,19	Harmonics4	1~16	0~15	1
26	52,1A	Harmonics4 Mod Source	[*3]	0~33	1
27	52,1B	Harmonics4 Mod Int.	-15~+15	-15~+15	1
28	52,1C	Frequency Fine4	-99~+99	-99~+99	1
29	52,1D	Level4	0~99	0~99	1
30	52,1E	Resonance Mod Source	[*3]	0~33	1
31	52,1F	Resonance Mod Int.	-99~+99	-99~+99	1
0	53,00	[Ring Mod.OSC] Input Select	OSC1(2)/SubOSC/Noise /Filter1/Filter2	0~4	1
1	53,01	Carrier Wave	SAW/SQU/TRI/SIN	0~3	1
2	53,02	Modulation Depth	0~99	0~99	1
3	53,03	Modulation Depth Mod1 Source	[*3]	0~33	1
4	53,04	Modulation Depth Mod1 Int.	-99~+99	-99~+99	1
5	53,05	Modulation Depth Mod2 Source	[*3]	0~33	1
6	53,06	Modulation Depth Mod2 Int.	-99~+99	-99~+99	1
7	53,07	Type	1/2	0/1	1
8	53,08	Wave Edge	0~99	0~99	1
0	54,00	[Cross Mod.OSC] Input Select	OSC1(2)/SubOSC/Noise /Filter1/Filter2	0~4	1
1	54,01	Carrier Wave	SAW/SQU/TRI/SIN	0~3	1
2	54,02	Modulation Depth	0~99	0~99	1
3	54,03	Modulation Depth Mod1 Source	[*3]	0~33	1
4	54,04	Modulation Depth Mod1 Int.	-99~+99	-99~+99	1
5	54,05	Modulation Depth Mod2 Source	[*3]	0~33	1
6	54,06	Modulation Depth Mod2 Int.	-99~+99	-99~+99	1
7	54,07	Wave Edge	0~99	0~99	1
0	55,00	[Sync OSC] Input Select	OSC1(2)/SubOSC/Noise /Filter1/Filter2	0~4	1
1	55,01	Slave Wave	SAW/SQU/TRI/SIN	0~3	1
2	55,02	Wave Edge	0~99	0~99	1
0	56,00	[Organ Model] (Drawbar1)			
1	56,01	Wave	SIN1/SIN2/SIN3/TRI	0~3	1
2	56,02	Harmonics	1~16	0~15	1
3	56,03	Fine	-99~+99	-99~+99	1
4	56,04	Level	0~99	0~99	1
5	56,05	Level Mod Source	[*3]	0~33	1
6	56,06	Level Mod Int.	-99~+99	-99~+99	1
7	56,07	Percussion Level (Drawbar2)	0~99	0~99	1
8	56,08	Wave	SIN1/SIN2/SIN3/TRI	0~3	1
9	56,09	Harmonics	1~16	0~15	1
10	56,10	Fine	-99~+99	-99~+99	1
11	56,11	Level	0~99	0~99	1
12	56,12	Level Mod Source	[*3]	0~33	1
13	56,13	Level Mod Int.	-99~+99	-99~+99	1
14	56,14	Percussion Level (Drawbar3)	0~99	0~99	1
15	56,15	Wave	SIN1/SIN2/SIN3/TRI	0~3	1
16	56,16	Harmonics	1~16	0~15	1
17	56,17	Fine	-99~+99	-99~+99	1
18	56,18	Level	0~99	0~99	1
19	56,19	Level Mod Source	[*3]	0~33	1
20	56,20	Level Mod Int.	-99~+99	-99~+99	1
21	56,21	Percussion Level (Percussion)	0~99	0~99	1
22	56,22	Trigger Mode	SINGLE/MULTI	0/1	1
23	56,23	Decay	0~99	0~99	1
24	56,24	Percussion Level Mod Source	[*3]	0~33	1
25	56,25	Percussion Level Mod Int.	-99~+99	-99~+99	1
		[E. Piano Model] (Hammer)			
0	57,00	Force	0~99	0~99	1
1	57,01	Force Velocity Curve	OFF/0~99	-1/0~99	1
2	57,02	Width	0~99	0~99	1
3	57,03	Click Level	0~99	0~99	1

		(Tone Generator)			
4	57,04	Decay	0~99	0~99	1
5	57,05	Release	0~99	0~99	1
6	57,06	Overtone Level	0~99	0~99	1
7	57,07	Overtone Freq	0~99	0~99	1
8	57,08	Overtone Decay (Pickup)	0~99	0~99	1
9	57,09	Pickup Position	0~99	0~99	1
10	57,0A	Pickup Position Mod Source	[*3]	0~33	1
11	57,0B	Pickup Position Mod Int. (Low EQ)	-99~+99	-99~+99	1
12	57,0C	Low EQ Freq	0~49	0~49	1
13	57,0D	Low EQ Gain	-18~+18dB	-18~+18	1
<hr/>					
		[Brass Model]			
0	58,00	Instrument Type	[*6]	0~5	1
1	58,01	Pitch Bend+	Smooth/Jump	0/1	1(Bit0)
	58,02	Pitch Bend-	Smooth/Jump	0/1	^(Bit1)
2	58,03	Pressure EG	EG1~EG4/A.EG	1~5	1
3	58,04	Pressure EG Intensity	-99~+99	-99~+99	1
4	58,05	Pressure Mod1 Source	[*3]	0~33	1
5	58,06	Pressure Mod1 Int.	-99~+99	-99~+99	1
6	58,07	Pressure Mod2 Source	[*3]	0~33	1
7	58,08	Pressure Mod2 Int.	-99~+99	-99~+99	1
8	---	reserved			1
9	58,09	Lip Character	0~99	0~99	1
10	58,0A	Lip Character Mod Source	[*3]	0~33	1
11	58,0B	Lip Character Mod Int.	-99~+99	-99~+99	1
12	---	reserved			1
13	---	reserved			1
14	---	reserved			1
15	58,0C	Bell Tone	0~99	0~99	1
16	58,0D	Bell Resonance	0~99	0~99	1
17	58,0E	Noise Level	0~99	0~99	1
18	---	reserved			1
19	---	reserved			1
20	---	reserved			1
21	---	reserved			1
22	---	reserved			1
23	---	reserved			1
24	---	reserved			1
25	---	reserved			1
26	---	reserved			1
27	---	reserved			1
28	58,0F	PEQ Freq	0~49	0~49	1
29	58,10	PEQ Q	0~29	0~29	1
30	58,11	PEQ Gain	-18~+18dB	-18~+18	1
31	58,12	Strength	0~99	0~99	1
32	---	reserved			1
33	---	reserved			1
34	---	reserved			1
35	---	reserved			1
36	---	reserved			1
<hr/>					
		[Reed Model]			
0	59,00	Instrument Type	[*7]	0~16	1
1	59,01	Pitch Bend+	Smooth/Jump	0/1	1(Bit0)
	59,02	Pitch Bend-	Smooth/Jump	0/1	^(Bit1)
2	59,03	Pressure EG	EG1~EG4/A.EG	1~5	1
3	59,04	Pressure EG Int.	-99~+99	-99~+99	1
4	59,05	Pressure Mod1 Source	[*3]	0~33	1
5	59,06	Pressure Mod1 Int.	-99~+99	-99~+99	1
6	59,07	Pressure Mod2 Source	[*3]	0~33	1
7	59,08	Pressure Mod2 Int.	-99~+99	-99~+99	1
8	---	reserved			1
9	---	reserved			1
10	---	reserved			1
11	---	reserved			1
12	---	reserved			1
13	59,09	Noise Level	0~99	0~99	1
14	---	reserved			1
15	---	reserved			1
16	---	reserved			1
17	---	reserved			1
18	---	reserved			1
19	---	reserved			1
20	---	reserved			1
21	---	reserved			1
22	---	reserved			1
23	---	reserved			1
24	---	reserved			1
25	---	reserved			1
26	59,0A	Reed Mod Source	[*3]	0~33	1
27	59,0B	Reed Mod Int.	-99~+99	-99~+99	1
28	59,0C	HPF Fc	0~99	0~99	1
29	59,0D	HPF Resonance	0~99	0~99	1
30	59,0E	PEQ Freq	0~49	0~49	1
31	59,0F	PEQ Q	0~29	0~29	1
32	59,10	PEQ Gain	-18~+18dB	-18~+18	1
33	---	reserved			1
		(Wave Shape)			

34	59,11	Offset	-99~+99	-99~+99	1
35	59,12	Table	Clip/Reso	0/1	1(Bit7)
	59,13	Shape	0~99	0~99	^(Bit6~0)
36	59,14	Shape Mod Source	[*3]	0~33	1
37	59,15	Shape Mod Int.	-99~+99	-99~+99	1

		[Plucked String Model]			
0	5A,00	Attack Level	0~99	0~99	1
1	5A,01	Attack Level Velocity Cntrl	-99~+99	-99~+99	1
2	5A,02	Attack Curve Up	0~99	0~99	1
3	5A,03	Attack Curve Up Veloc Cntrl	-99~+99	-99~+99	1
4	5A,04	Attack Curve Down	0~99	0~99	1
5	5A,05	Attack Curve Down Veloc Cntrl	-99~+99	-99~+99	1
6	5A,06	Attack Noise Level	0~99	0~99	1
7	5A,07	Attack Noise Level Veloc Cntrl	-99~+99	-99~+99	1
8	5A,08	String Position	0~99	0~99	1
9	5A,09	String Position Mod Source	[*3]	0~33	1
10	5A,0A	String Position Mod Int.	-99~+99	-99~+99	1
11	5A,0B	Dispersion	0~99	0~99	1
12	5A,0C	Dispersion Mod Source	[*3]	0~33	1
13	5A,0D	Dispersion Mod Int.	-99~+99	-99~+99	1
14	5A,0E	Damping	0~99	0~99	1
15	5A,0F	Damping Keyboard Track	-99~+99	-99~+99	1
16	5A,10	Damping Mod Source	[*3]	0~33	1
17	5A,11	Damping Mod Intensity	-99~+99	-99~+99	1
18	5A,12	Decay	0~99	0~99	1
19	5A,13	Decay Keyboard Track	-99~+99	-99~+99	1
20	5A,14	Release	0~99	0~99	1
21	5A,15	Harmonics Position	0~99	0~99	1
22	5A,16	Harmonics Mod Source	[*3]	0~33	1
23	5A,17	Harmonics Mod Int.	-99~+99	-99~+99	1
24	5A,18	Pickup Switch	OFF/ON	0/1	1
25	5A,19	Pickup Position	0~99	0~99	1
26	5A,1A	Pickup Position Mod Source	[*3]	0~33	1
27	5A,1B	Pickup Position Mod Int.	-99~+99	-99~+99	1
28	5A,1C	Low EQ Freq	0~49	0~49	1
29	5A,1D	Low EQ Gain	-18~+18dB	-18~+18	1
30	5A,1E	Low Boost	0~99	0~99	1

		[Bowed String Model]			
		(Bow Speed)			
0	5B,00	Bow Speed EG	EG1~EG4/A.EG	1~5	1
1	5B,01	Bow Speed EG Int.	-99~+99	-99~+99	1
2	5B,02	Bow Speed Mod1 Source	[*3]	0~33	1
3	5B,03	Bow Speed Mod1 Int.	-99~+99	-99~+99	1
4	5B,04	Bow Speed Mod2 Source	[*3]	0~33	1
5	5B,05	Bow Speed Mod2 Int.	-99~+99	-99~+99	1
6	5B,06	Bow Differential	OFF/ON	0/1	1
		(Pressure)			
7	5B,07	Pressure EG	EG1~EG4/A.EG	1~5	1
8	5B,08	Pressure EG Int.	-99~+99	-99~+99	1
9	5B,09	Pressure Mod Source	[*3]	0~33	1
10	5B,0A	Pressure Mod Int.	-99~+99	-99~+99	1
11	5B,0B	Rosin Amount	0~99	0~99	1
		(String Position)			
12	5B,0C	String Position	0~99	0~99	1
13	5B,0D	String Position Mod Source	[*3]	0~33	1
14	5B,0E	String Position Mod Int.	-99~+99	-99~+99	1
		(String Character)			
15	5B,0F	Damping	0~99	0~99	1
16	5B,10	Damping Keyboard Trk Key	C-1~G9	0~127	1
17	5B,11	Damping Keyboard Trk Low Int.	-99~+99	-99~+99	1
18	5B,12	Damping Keyboard Trk High Int.	-99~+99	-99~+99	1
19	5B,13	Damping Mod Source	[*3]	0~33	1
20	5B,14	Damping Mod Int.	-99~+99	-99~+99	1
21	5B,15	Dispersion	0~99	0~99	1
22	5B,16	Dispersion Mod Source	[*3]	0~33	1
23	5B,17	Dispersion Mod Int.	-99~+99	-99~+99	1
		(Reflection)			
24	5B,18	Reflection	0~99	0~99	1
25	5B,19	Reflection Mod Source	[*3]	0~33	1
26	5B,1A	Reflection Mod Int.	-99~+99	-99~+99	1
		(PEQ)			
27	5B,1B	PEQ Freq	0~49	0~49	1
28	5B,1C	PEQ Q	0~29	0~29	1
29	5B,1D	PEQ Gain	-18dB~+18dB	-18~+18	1

[*1]:Please refer to PCM Program information described in Trinity Parameter Guide.

[*2]:Retrigger Controller List

ID	Modulation Sources
0	Off
1	Velocity[Soft]
2	Velocity[Medium]
3	Velocity[Hard]
4	Note Number[Linear]
5	Note Number[Exp]
6	Note Split[High]

[*3]:Modulation Source List

ID	Modulation Sources
0	Off
1	EG1
2	EG2
3	EG3
4	EG4
5	Amp EG
6	LFO1

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7|Note Split[Low]
8|After Touch
9|Joy Stick(X)
10|Joy Stick(+Y)
11|Joy Stick(-Y)
12|AfterTouch+JS(+Y)
13|Ribbon (X)
14|Ribbon (+X)
15|Ribbon (-X)
16|Ribbon (Z)
17|Foot Pedal(CC#04)
18|Value Slider(CC#18)
19|MIDI(CC#19)
20|SW1(CC#80)
21|SW2(CC#81)
22|Foot SW(CC#82)
23|MIDI(CC#83)

```

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7|LFO2
8|LFO3
9|LFO4
10|Portamento
11|Velocity[Soft]
12|Velocity[Medium]
13|Velocity[Hard]
14|Note Number[Linear]
15|Note Number[Exp]
16|Note Split[High]
17|Note Split[Low]
18|After Touch
19|Joy Stick(X)
20|Joy Stick(+Y)
21|Joy Stick(-Y)
22|AfterTouch+JS(+Y)
23|Ribbon (X)
24|Ribbon (+X)
25|Ribbon (-X)
26|Ribbon (Z)
27|Foot Pedal(CC#04)
28|Value Slider(CC#18)
29|MIDI(CC#19)
30|SW1(CC#80)
31|SW2(CC#81)
32|Foot SW(CC#82)
33|MIDI(CC#83)

```

[*4]:LFO Wave Form

ID	Name
0	Triangle '0
1	Triangle '90
2	Tri Random
3	Sine
4	Saw Up '0
5	Saw Up '180
6	Saw Down '0
7	Saw Down '180
8	Square
9	Random(S/H)
10	Random(Vector)
11	Step Tri 4
12	Step Tri 6
13	Step Saw 4
14	Step Saw 6
15	Exp Tri
16	Exp Saw Up
17	Exp Saw Down

[*5]:Oscillator Type

ID	Name
0	Standard OSC
1	Comb Filter OSC
2	VPM OSC
3	Resonance OSC
4	Ring Modulation OSC
5	Cross Modulation OSC
6	Sync OSC
7	Organ Model
8	Electric Piano Model
9	Brass Model
10	Reed Model
11	Plucked String Model
12	Bowed String Model

You can select upto 8:Electric Piano Model for OSC2 Setting. Also, please be careful that the number starts from 1 in the TouchView display.

[*6]:Brass Model Instrument Types

ID	Name
0	Brass 1
1	Brass 2
2	Brass 3
3	Horn 1
4	Horn 2
5	ReedBrass

[*7]:Reed Model Instrument Types

ID	Name
0	Hard Sax 1
1	Hard Sax 2
2	Hard Sax 3
3	Soft Sax 1
4	Soft Sax 2
5	DoubleReed 1
6	DoubleReed 2
7	Bassoon
8	Clarinet
9	Flute 1
10	Flute 2
11	PanFlute
12	Ocarina
13	Shakuhachi
14	Harmonica 1
15	Harmonica 2
16	ReedSynth

-Revision History-

1.0 Dec.14 1998 Initial Release.